

What is claimed is:

1. An apparatus for displaying a three-dimensional image, comprising:

a flat display device displaying a plurality of perspective views from different directions;

and

a lenticular lens sheet including a plurality of lenticular lens pieces of which Y-axis being parallel to a vertical axis of the flat display, the plurality of lenticular lens pieces forming a plurality of lines being parallel to a horizontal axis of the flat display device on a front surface of the flat display device, each of the plurality of lines being shifted to a predetermined distance.

2. The apparatus for displaying the three-dimensional image of claim 1, wherein a size of each lens piece of the lenticular lens sheet is

$$\text{Width (P}_h\text{)} = \frac{3.5p(D - d)}{3D}, \text{Length (P}_v\text{)} = \frac{p(D - d)}{D},$$

Wherein, (P: a length of a pixel in a horizontal direction, D: a distance between a viewer and the flat display device, d: a distance between the flat display device and the lenticular lens sheet).

3. The apparatus for displaying the three-dimensional image of claim 1, wherein the predetermined distance in each line is changed according to a resolution of the three-dimensional image of which the viewer wants to describe.

4. The apparatus for displaying the three-dimensional image of claim 1, wherein the predetermined distance in each line $1/6p$ (p : a length of a pixel in a horizontal direction).

5. The apparatus for displaying the three-dimensional image of claim 1, wherein the parallax image is displayed in a horizontal direction of the flat display device.

6. The apparatus for displaying the three-dimensional image of claim 1, wherein the lenticular lens sheet is aligned at a predetermined distance from the flat display device so as to focus the flat display device on the image.

7. The apparatus for displaying the three-dimensional image of claim 1, wherein the flat display device is an LCD or a PDP.

8. An apparatus for displaying a three-dimensional image, comprising:

a flat display device displaying a plurality of perspective views taken from different directions; and

a lenticular lens sheet including a plurality of lenticular lens pieces arrayed on a front surface of the flat display device in a horizontal direction, the arrayed lenticular lens pieces forming a plurality of lines parallel to the horizontal axis of the flat display device.

9. The apparatus for displaying the three-dimensional image of claim 8, wherein each of the plurality of lines is shifted to a predetermined distance.

10. The apparatus for displaying the three-dimensional image of claim 8, wherein a size of each lens piece of the lenticular lens sheet is

$$\text{Width (P}_h\text{)} = \frac{3.5p(D - d)}{3D}, \text{Length (P}_v\text{)} = \frac{p(D - d)}{D},$$

Wherein, (P: a length of a pixel in a horizontal direction, D: a distance between a viewer and the flat display device, d: a distance between the flat display device and the lenticular lens sheet).

11. The apparatus for displaying the three-dimensional image of claim 8, wherein the predetermined distance in each line is changed according to a resolution of the three-dimensional image of which the viewer wants to describe.

12. The apparatus for displaying the three-dimensional image of claim 8, wherein the predetermined distance in each line $1/6p$ (p : a length of a pixel in a horizontal direction).

13. The apparatus for displaying the three-dimensional image of claim 1, wherein the parallax image is represented in a horizontal direction of the flat display device.

14. The apparatus for displaying the three-dimensional image of claim 1, wherein the lenticular lens sheet is arranged at a predetermined distance from the flat display device so as to focus the flat display device on the image.

15. The apparatus for displaying the three-dimensional image of claim 1, wherein the flat display device is an LCD or a PDP.